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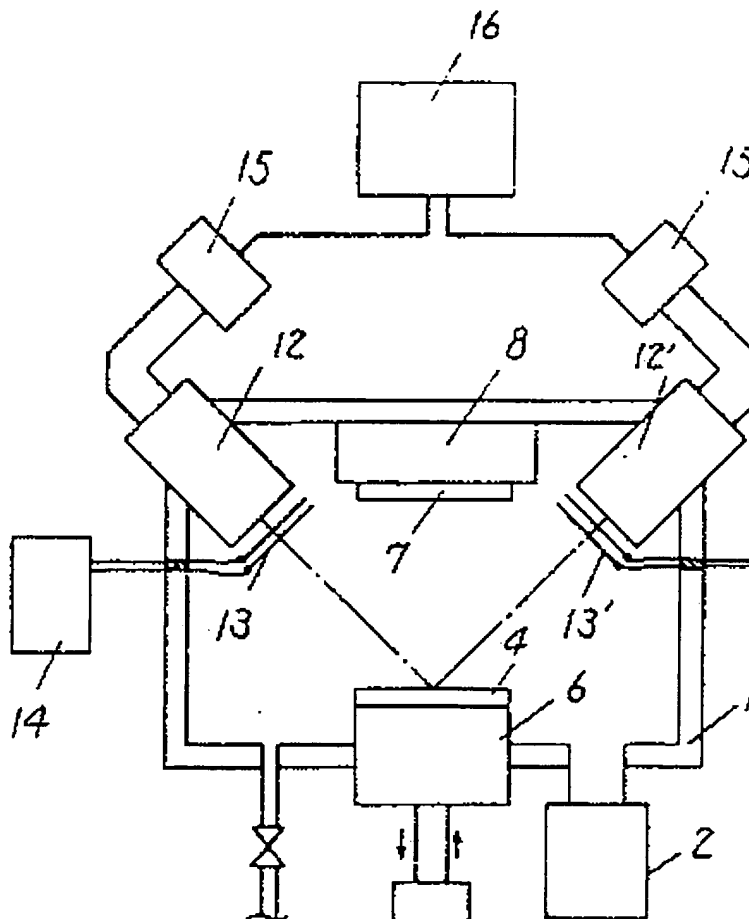
<p>(30) Priority:</p> <p>(43) Date of application publication: 18.01.90</p> <p>(84) Designated contracting states:</p>	<p>(71) Applicant: MATSUSHITA ELECTRIC</p> <p>(72) Inventor: TSUDA YOSHIYUKI YASUI HIDEAKI MUKAI YUJI TANAKA HIROYOSHI</p> <p>(74) Representative:</p>
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(54) ION BEAM SPUTTERING  
DEVICE AND PRODUCTION  
OF THIN MULTICOMPONENT  
FILM

(57) Abstract:

**PURPOSE:** To form a thin multicomponent film free from the partial nonuniformity of composition ratio by staggering the time for the production of each individual ion beam and also changing voltages to be impressed on respective ion beam-drawing systems by means of individual ion guns.

**CONSTITUTION:** Microwave ion guns 12, 12' and ion beam-drawing systems 13, 13' equal or larger in number to or than the number of the components of a material contained in a sputtering target 4 are placed so that they radiate from the sputtering target 4 and have prescribed angles with respect to the target surface. A beam control device 16 in which radiant mode is regulated so that ion beams from individual plural ion guns 12, 12'













are emitted intermittently and the time for the radiant mode in the individual ion guns 12, 12' is staggered is provided.

Simultaneously, drawing voltages to be impressed on the respective ion beam-drawing systems 13, 13' are changed with every ion gun.

Accordingly, the nonuniform distribution of composition ratio at the time of forming a thin multicomponent film is removed, and the thin film of stable quality can be formed.

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Country	JP Japan
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Issued/Filed Dates	Jan. 18, 1990 / July 4, 1988
Application Number	JP1988000166151
IPC Class	<b>C23C 14/46;</b>
Abstract	<p><b>Purpose:</b> To form a thin multicomponent film free from the partial nonuniformity of composition ratio by staggering the time for the production of each individual ion beam and also changing voltages to be impressed on respective ion beam-drawing systems by means of individual ion guns.</p> <p><b>Constitution:</b> Microwave ion guns 12, 12' and ion beam-drawing systems 13, 13' equal or larger in number to or than the number of the components of a material contained in a sputtering target 4 are placed so that they radiate from the sputtering target 4 and have prescribed angles with respect to the target surface. A beam control device 16 in which radiant mode is regulated so that ion beams from individual plural ion guns 12, 12' are emitted intermittently and the time for the radiant mode in the individual ion guns 12, 12' is staggered is provided. Simultaneously, drawing voltages to be impressed on the respective ion beam-drawing systems 13, 13' are changed with every ion gun. Accordingly, the nonuniform distribution of composition ratio at the time of forming a thin multicomponent film is removed, and the thin film of stable quality can be formed.</p> <p>COPYRIGHT: (C)1990,JPO&amp;Japio</p>
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Foreign References	(No patents reference this one)
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